SONY

3-753-064-21 (1)

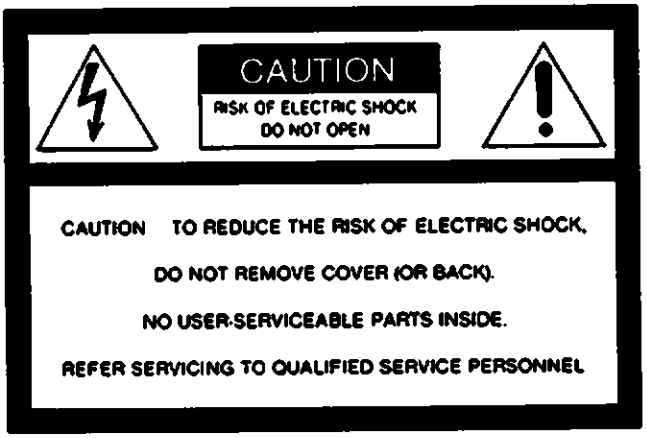
Compact Hi-density Component System

Operating Instructions

MHC-1200

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Owner's Record

The model and serial numbers are located at the rear of the unit. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. MHC-1200 Serial No. _____

INFORMATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna
Relocate the equipment with respect to the receiver
Move the equipment away from the receiver
Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

CAUTION

The use of optical instruments with this product will increase eye hazard.

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

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How to Use this Manual

How this manual is composed

Please read the instructions of this manual referring to the illustrations.

- The letters on illustrations correspond to the letters in the text: ex. Speaker Cord Connection A
- The step numbers in illustrations correspond to the step numbers in the text.
- Use the page numbers in "Parts Identification" at the end of this manual as the index to find how to use the buttons and controls.

Overview

Tuner section

- You can store up to 30 stations. → page 11

Amplifier section

- DBFB (Dynamic Bass Feedback) system reinforces bass sound. → page 9
- 5-band stereo graphic equalizer adjusts the sound quality to your preference during playback. → page 9

Cassette deck section

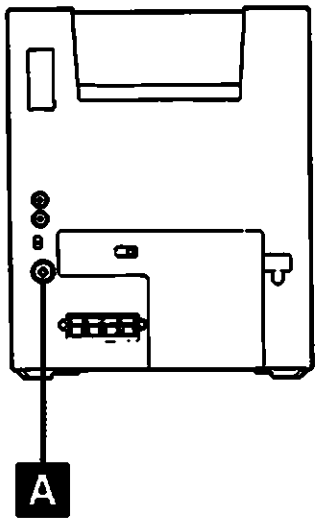
- Auto-reverse decks enable repeated playback of both sides of the cassette.
- CD synchro function enables easy recording of a CD. → page 21
- Double decks enable tape dubbing and continuous playback. → pages 18, 25

CD player section

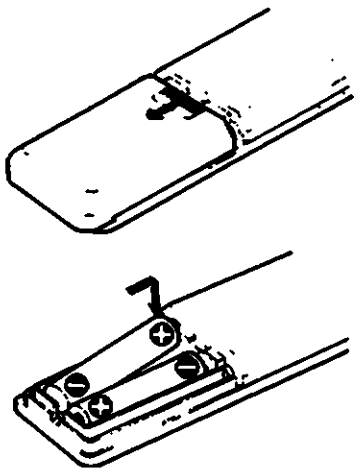
- You can enjoy listening in various playing modes.
- Time edit function allows you to program selections automatically to fit in a desired duration. → page 23

Precautions

A



B



On operating voltage

Operate the unit on 120 V AC, 60 Hz.

On safety

- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Unplug the system from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- Should any solid object or liquid fall into the component, unplug the system and have the component checked by qualified personnel before operating it any further.
- AC power cord must be changed only at the qualified service shop.
- As the laser beam used in this unit is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.

For detailed safety precautions, see the "IMPORTANT SAFEGUARDS" leaflet.

On operation A

- When you connect the AC power cord for the first time or after several days of disconnection, press the system reset button located at the rear of the unit.
- If the system does not operate due to power noise, press the system reset button at the rear. The system will resume operation.

  At this time, the system returns to the factory-set mode. Please set the clock, timer, or store stations again.

If you have any question or problem concerning your stereo system, please consult your nearest Sony dealer.

Preparations

Installation

Place the stereo system in a location with adequate ventilation to prevent internal heat build-up in the system.

On moisture condensation in the CD player section

If the system is brought directly from the cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the unit. Should this occur, the CD player will not operate. In this case, remove the disc and leave the system turned on for about an hour until the moisture evaporates.

Battery Installation B

Install the two size AA (R6) batteries in the supplied remote commander for remote control operation.

Battery life

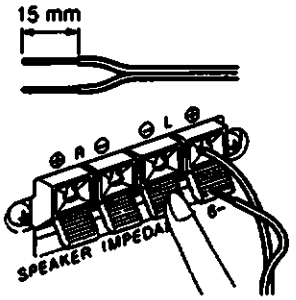
About half a year of normal operation can be expected when using the Sony SUM-3(NS) batteries.
When the batteries are exhausted, the commander cannot operate the stereo system. When this happens, replace both batteries with new ones.

To avoid battery leakage

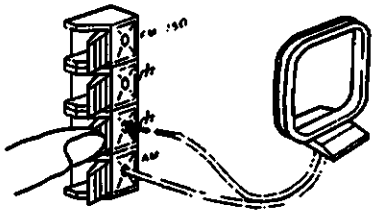
If the commander is not to be used for a long time, remove the batteries to avoid damage caused by battery leakage and corrosion.

Connections

A



B-1



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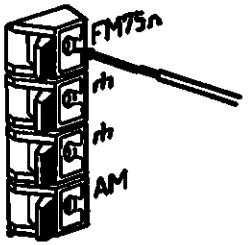


Notes on connection

- Connect the AC power cord last.
- Cord plugs and jacks are color coded. Red plugs and jacks are for the right channel (R) and white ones for the left channel (L).

Speaker Cord Connection A

1 Strip the coating of the speaker cord by 15 mm (5/8 inches) from the end.

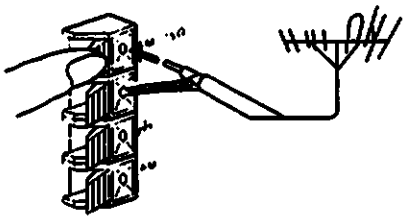
2 Connect the right speaker to R, with the red cord to ⊕ and the black cord to ⊖.
Connect the left speaker to L, with the red cord to ⊕ and the black cord to ⊖.

Basic Antenna Connection

- Connect the supplied AM loop antenna to the AM and ⏚ terminals. B-1
- Connect the supplied FM lead antenna to the FM 75Ω terminal. B-2

Connections

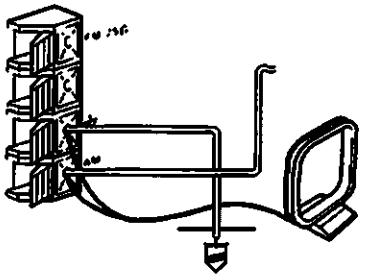
C



For Better FM Reception C

Connect the outdoor FM antenna to FM75Ω and ⏚ terminal, using 75-ohm coaxial cable.

D



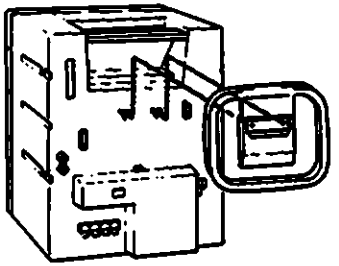
For Better AM Reception D

Use the 6- to 15-meter (20- to 50-feet) insulated wire for connecting the AM terminal.
Connect the ⏚ terminal to a good ground.

Important

When you use an external antenna, be sure to ground it against lightning. Never connect the ground wire to a gas pipe. Doing so is extremely dangerous.

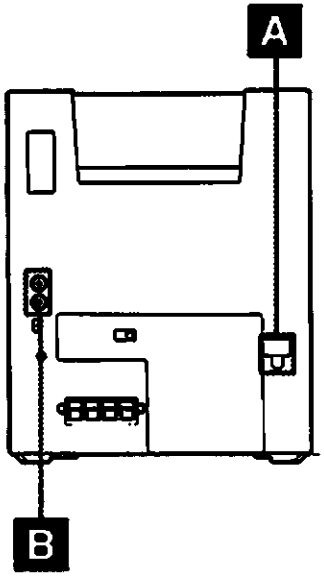
E



To attach the AM loop antenna to the main unit in order to carry the unit

See the illustration E.

Connections



Power Connection A

Connect the supplied AC power cord to the AC IN connector and to a wall outlet.

Adding Other Components to your System B

You can connect a VTR, etc. to the VIDEO/AUX jack.
To listen to the connected equipment, press the VIDEO/AUX button on the front panel.

Changing the AM Tuning Interval

The AM tuning interval is preset at the factory to 10 kHz.
If you use a system where the frequency allocation system is different from the preset interval, change the interval as follows.

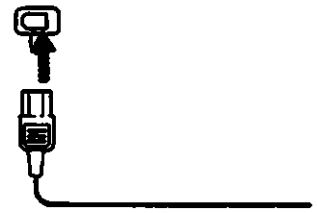
1 Turn on the power.
2 Tune in any AM station.
3 Turn off the power.
4 Turn the power back on while pressing TUNING +.

To reset the interval, follow the same procedure.

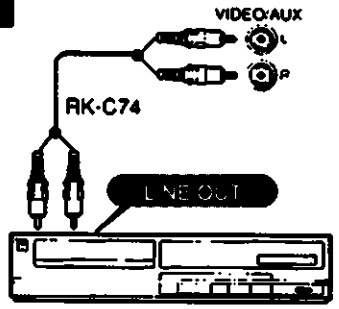
Important

When the interval is changed, stored stations will be erased from the memory.

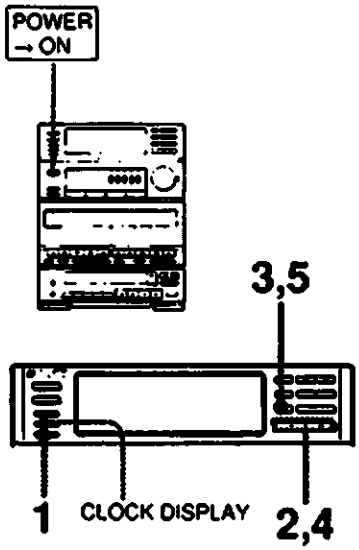
A



B



Clock Setting



Setting the Clock

Example: Set to 9:25 in the morning.
When the AC power cord is connected, the display shows AM 12:00.

1 **Press CLOCK SET.**

2 **Set the hour with PRESET/TIMER +/– buttons.**

3 **Press NEXT.**

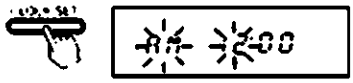
4 **Set the minute with PRESET/TIMER +/– buttons.**

5 **Press NEXT.**
The clock starts operating.

When a power interruption occurs
The power is backed up for approximately one day. If the power is recovered within one day, there is no need to reset the clock and timer. If it is longer than one day, both the clock and timer settings are erased, and "AM 12:00" will flash on the display.

To check the present time while using the system
Press CLOCK DISPLAY.
The time display disappears after a few seconds.

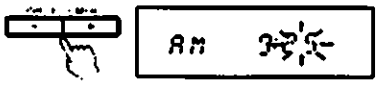
1



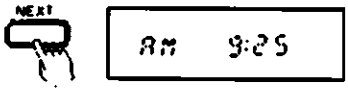
2

3

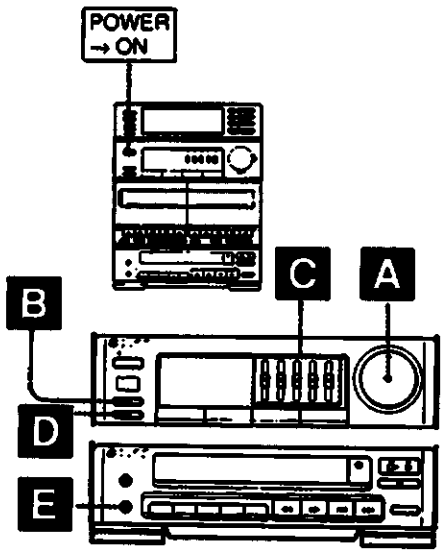
4



5



Audio Adjustment



Volume Adjustment

Turn VOLUME A clockwise to increase the sound level, or counterclockwise to decrease it.

Sound Quality Adjustment

To reinforce bass
Press DBFB B.
The lower the sound level is, the more the bass is emphasized.

To adjust sound quality to your preference
Adjust the graphic equalizer controls C.

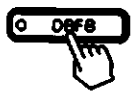
100 Hz: Boost or cut heavy bass.
400 Hz: Adjust the power, spaciousness and warmth of the sound.
1 kHz: Increase the presence of vocals.
4 kHz: Enhance the brightness of sound, or reduce stridency.
12 kHz: Highlight the fine details of instrumental sound.

To activate surround effect for stereo sound
Press S-SUR (simulated surround) D during a stereo sound reproduction. This creates the atmosphere of a movie theater or concert hall.
This function is not effective for a monaural sound.

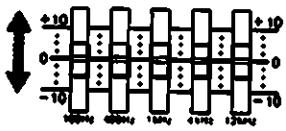
For personal listening
Connect headphones to HEADPHONES E.
No sound comes from the speakers.

A

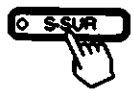
B



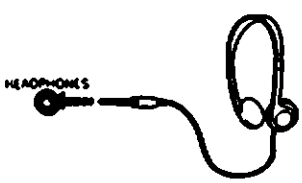
C



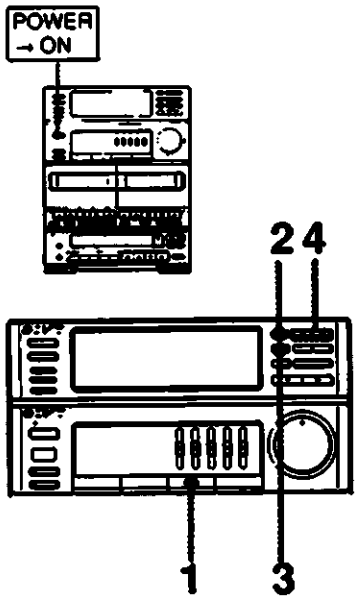
D



E



Radio



The automatic tuning allows you to receive stations whose signal is strong enough. When the signal is too weak, use the manual tuning.

Tuning in Automatically

1 **Press TUNER.**

2 **Press BAND repeatedly until the desired band appears.**
As you press BAND, the band changes as follows:
FM ↔ AM

3 **Press AUTO.**
Make sure that AUTO appears in the display.

4 **Select the station with TUNING + or −.**

Tuning in Manually

1 **Press TUNER.**

2 **Select band by pressing BAND.**

3 **Press AUTO so that AUTO disappears from the display.**

4 **Select the station with TUNING + or −.**

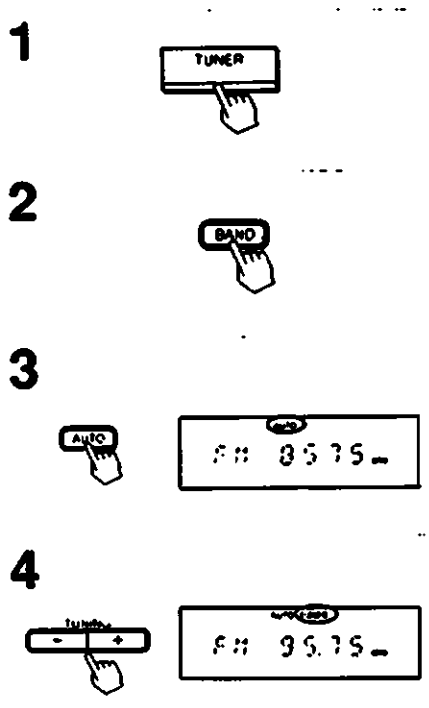
Indicator on the display

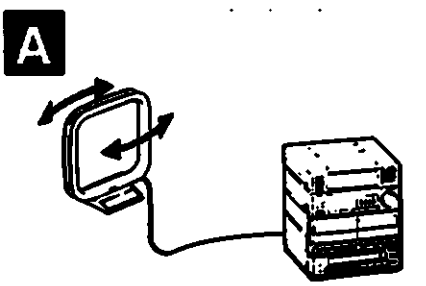
TUNED: Appears when a station of sufficient signal strength is tuned in.

STEREO: Appears when an FM stereo program of sufficient signal strength is received.

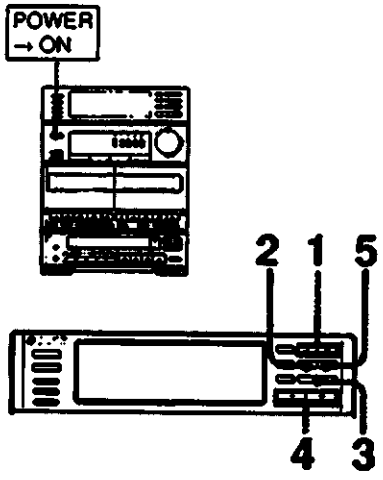
Antenna adjustment A

For AM reception, find the best location of the AM loop antenna.





Radio



A total of 30 stations can be stored in any desired sequence, so that you can tune in the stored station directly by entering the memory page and number.

Storing Stations

1 **Tune in the desired station.**

2 **Press MEMORY.**
MEMORY appears for several second.

3 **While MEMORY is on, press SHIFT to select the memory page (A, B or C).**
The memory pages (A, B or C) can be classified according to the music category, station band, etc.

4 **While MEMORY is on, press PRESET/TIMER + or – to select the number (1 to 10).**

5 **Press ENTER.**
MEMORY disappears, and the station is stored.

6 **Repeat 1 to 5 for each stations to be stored.**

1

2

3

4

5

To Tune in a Preset Station

1 **Press SHIFT to select the memory page.**

2 **Press PRESET/TIMER + or – to select the desired number.**

If you cannot store a station successfully
Press MEMORY again so that MEMORY appears, and then proceed with the steps 3 to 5 above.
Be sure to operate while MEMORY is on (approx. 4 seconds.)

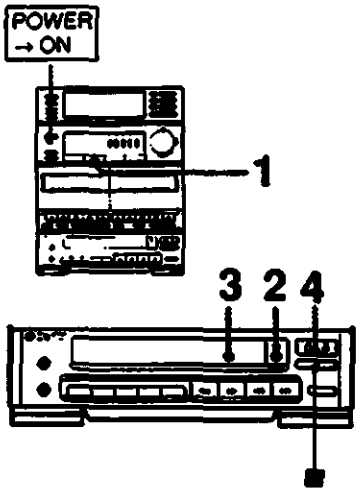
When you have selected the wrong page and number
Press MEMORY and then proceed with the above steps.

Can a previously stored station be erased?
No. Erasing only is not possible, but storing a new station erases the previous one.

Important

The stored stations remain for approximately 1 week even if no power is supplied (e.g. the power cord is disconnected, etc.). If they are erased, store the stations again.

Disc Playing



Playing the Entire Disc

1 **Press CD.**

2 **Press ≙ OPEN/CLOSE to open the tray.**

3 **Place the disc with the printed side up.**

4 **Press ▷II.**
The tray closes and play starts. The display shows A the track number, B elapsed playing time of the track and C track numbers.

Caution on adjusting volume
Do not turn up the volume while listening to the portion with very low level inputs or no audio signals. If you do, the speakers may be damaged when a peak level portion is played.

1

To stop play
Press ■.

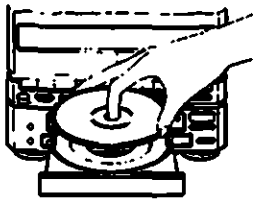
To stop for a moment during play
Press ▷II. II appears in the display.
To resume play, press it again.

2

To stop play and open the tray
Press ≙ OPEN/CLOSE.

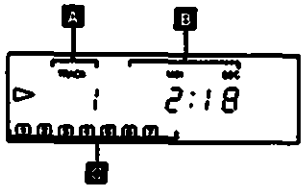
To play a 8 cm (3-inch) CD
Place it on the inner circle of the tray. If the disc is provided with an adaptor, first remove it. Do not put a normal CD (12 cm/5-inch) on top of an 8 cm (3-inch) CD.

3

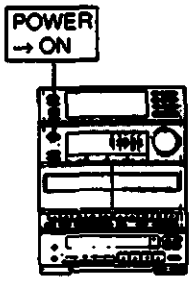


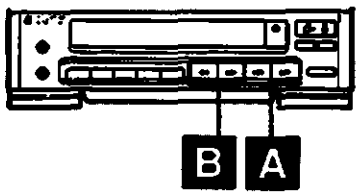
When the TUNER function is selected
The CD player section does not operate. This prevents interference to radio reception.

4



Disc Playing





Locating a Particular Selection — Automatic Music Sensor (AMS)

The AMS locates the beginning of a selection.
This function works during play or pause.

To locate the beginning of the current or preceding selection A-1
Press I◁◁ as many times as required.
Keep I◁◁ pressed to skip selection.

To locate the beginning of a succeeding selection A-2
Press ▷▷I as many times as required.
Keep ▷▷I pressed to skip selection.

A-1

A-2

Locating a Particular Point in a Selection

You can locate any particular point in the disc during play.

To search while monitoring the sound

To move forward at high speed B-1
Keep ▶▶ pressed during play and release at the desired point.

To move backward at high speed B-2
Keep ◀◀ pressed during play and release at the desired point.

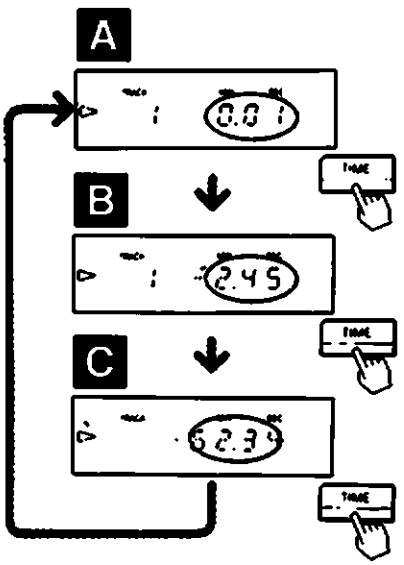
To search quickly

1 Press ▷II to set the unit in pause mode.
2 Keep ◀◀ or ▶▶ pressed.
The search speed increases, but there is no sound. Find the desired point by observing the display.
Press ▷II again at the desired point.

B-1

B-2

Disc Playing



Information display

To change the time display, press TIME during play.
As you press TIME, the display changes to give you the following information.

- A Elapsed playing time
- B Remaining time in a selection. If the current selection number is over 20, "----" is displayed.
- C Remaining time of the disc

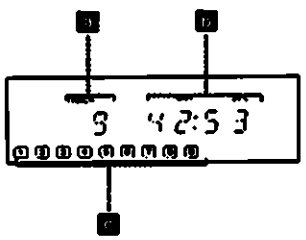
When the tray was closed by pressing ⏏ OPEN/CLOSE D

The followings appear for approx. 5 seconds.

- D Last track number
- B Total play time of the disc
- C Track numbers

For the discs containing 17 selections or more, up to 16 appear and the rest does not appear.

D



Notes on handling discs E

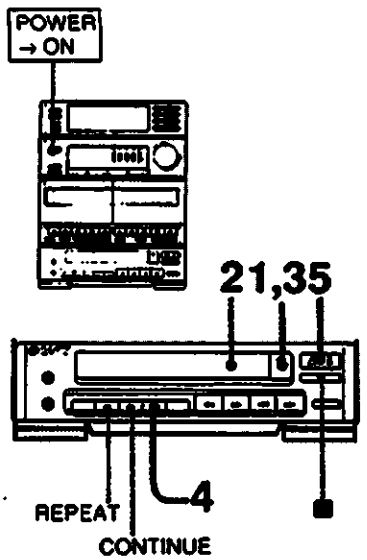
- To keep the disc clean, handle the disc by its edge. Do not touch the surface. A
- Do not stick paper or tape on the disc. B
- Do not expose the disc to direct sunlight or heat sources such as hot air duct, nor leave it in a car parked in direct sunlight as there can be a considerable rise in the temperature.
- After playing, store the disc in its case.

E

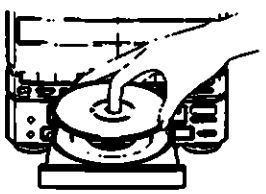
A

B

Disc Playing



1

2


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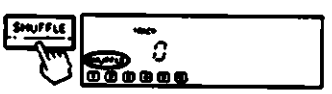

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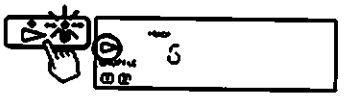

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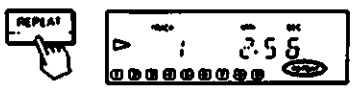
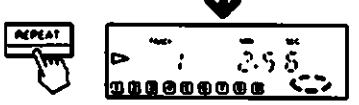


B

C


Playing in a Random Order — Shuffle Play

Shuffle play function plays all the selections in a random order.

1 Press ≜ OPEN/CLOSE to open the tray.

2 Place the disc.

3 Press ≜ OPEN/CLOSE to close the tray.

4 Press SHUFFLE.
SHUFFLE appears.

5 Press ▷II.

To stop playing
Press ■.

To cancel shuffle play
Press CONTINUE.
SHUFFLE disappears, and play continues in normal play mode.

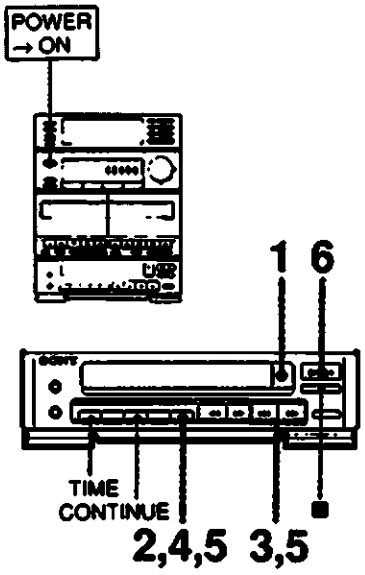
Playing Repeatedly — Repeat Play

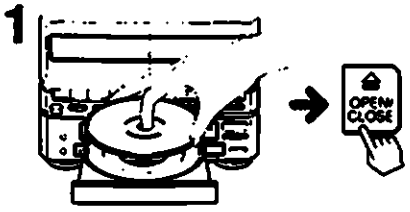
To repeat all selections A
Press REPEAT once during play so that REPEAT appears.

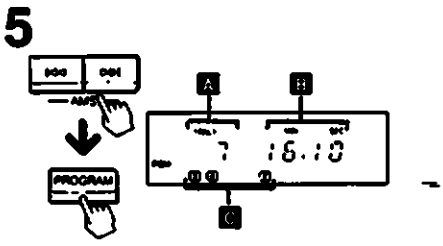
To repeat a single selection B
Press REPEAT twice while playing the desired selection so that REPEAT 1 appears.

To cancel repeat play C
Press REPEAT so that neither REPEAT nor REPEAT 1 is on.

Disc Playing







Playing in a Desired Order — Program Play

You can make a program for up to 20 selections in the order you want them to be played.

1 **Insert the disc.**

2 **Press PROGRAM.**
PGM appears in the display.

3 **Press ⏮ or ⏭ to display the desired selection.**

4 **Press PROGRAM.**

5 **Repeat steps 3 and 4 for the desired selections.**
- A Last programmed selection
- B Total playing time of selections
- C Programmed selection numbers

6 **Press ▷/II.**

To stop playing
Press ■.
To restart the same program play, press ▷/II.

To resume normal play
Press CONTINUE.
The program is erased and the play continues in the normal play mode.

To check your program

1 Press ▷/II to enter the pause mode.
2 Press ⏭.
As you press ⏭, the track numbers appear in the order in which they are programmed.
When you finished checking, press ■ once. (Be sure that you press ■ only once. If you press it twice, the program will be erased.)

To add a selection to the end of the program

Follow the same procedures as "Playing in a Desired Order" while the unit is in the stop mode.
You cannot add selections during play.

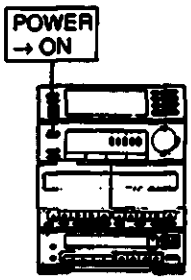
To erase the entire program

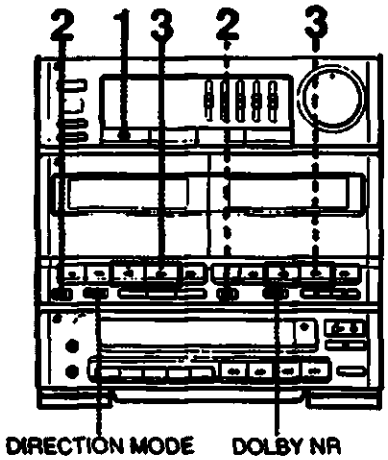
Press ■ once during stop: twice during play
The program is also erased when you press ⏏ to open the tray or turn off the system

If "----" is displayed
- You have programmed a selection number over 20.
- The total time has exceeded 100 minutes

To check the remaining time
Press TIME once to see the remaining time of the selection being played: twice to see the total remaining time of the programmed selections, once more to return to the initial display

Tape Playback





Playback Operation

1 **Press TAPE.**
TAPE appears in the display.

2 **Insert the tape.**

3 **Press ◁ (for reverse side playback) or ▷ (for front side playback).**

How to select the DIRECTION MODE position
To playback one side: Select ⇒.
To playback both sides: Select ⇄.
The DIRECTION MODE setting is effective for both decks.

To stop playback
Press ■.

Playing Back Automatically after Fast Winding — Auto Play

This function starts playback automatically from the beginning of the side after fast winding.

To start playback from the beginning of the front side:
press ▷ while keeping ◀◀ pressed
To start playback from the beginning of the reverse side:
press ◁ while keeping ▶▶ pressed.

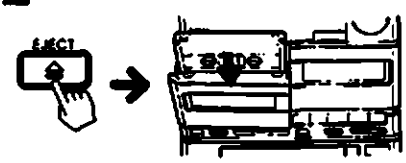
When listening to the cassette recorded with Dolby noise reduction system*
Set the DOLBY NR switch to ON.

What is the Dolby NR system?
Dolby NR (noise reduction) system reduces tape hiss noise in low-level high-frequency signals. The system boosts these signals in recording and lowers them in playback.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

1

2



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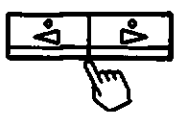
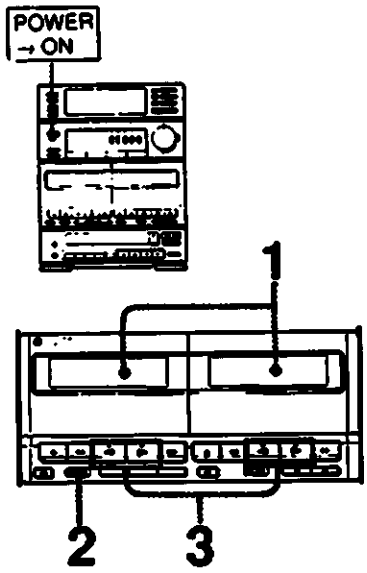
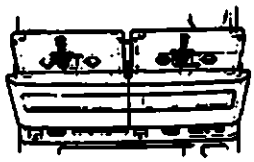


Tape Playback

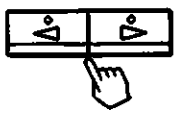


1

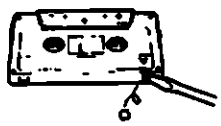


2

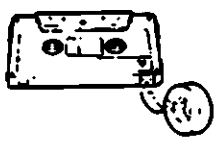
3



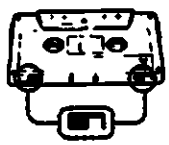
A



B

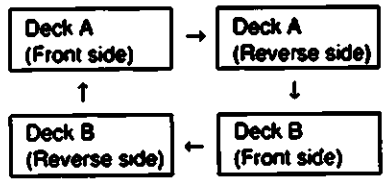


C



Playing Both Decks in Succession — Relay Play

Relay play always follows the sequence below regardless of where playback starts. When playback of the reverse side of the tape in deck B is completed, the following sequence continues 4 more times.



1 **Insert recorded cassettes in both decks.**

2 **Set DIRECTION MODE to RELAY.**

3 **Press ▷ or ◁ on deck A or deck B.**

To stop relay play
Press ■ of the deck playing.

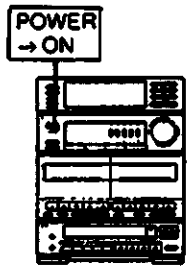
Notes on Cassettes

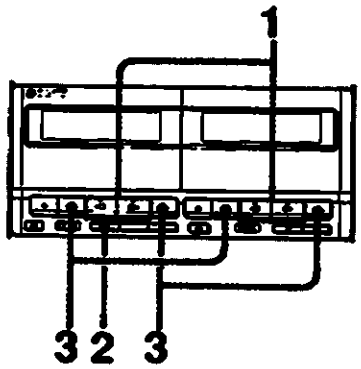
To protect recording A
Break out the tab on the left shoulder of the cassette side of which recording is to be protected.

To re-record the cassette B
Cover each slot with plastic tape.

When using a TYPE II (CrO_2) cassette, be careful not to cover the detector slots which are necessary for automatic tape type detection. C

Tape Playback





Locating the Beginning of a Selection during Playback — Automatic Music Sensor (AMS)

The AMS locates the beginning of a selection by detecting the blank spaces between selections. To assure correct operation of the AMS, there must be a blank of 4 seconds or longer between selections.

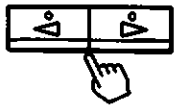
1 **Press ▷ or ◁ to start playback.**

2 **Press AMS/BLK SKIP to illuminate its indicator.**

3 **Press ▶▶ or ◀◀ referring to the following table.**

Direction indicator	Side of the cassette being played	Desired selection	
		Next selection	Selection being played
◁	Front side	▶▶	◀◀
▷	Reverse side	◀◀	▶▶

1



2

3

Skipping a Blank

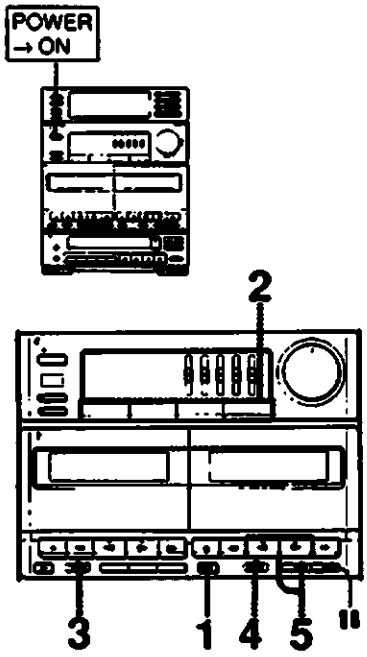
The deck automatically goes into the fast winding mode when it detects a blank of about 10 seconds or more.
Playback resumes when a new selection begins.

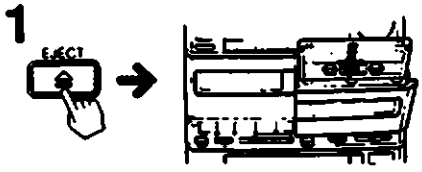
Press AMS/BLK SKIP to illuminate its indicator. A

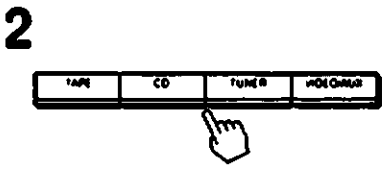
Press AMS/BLK SKIP again so that the indicator goes off.

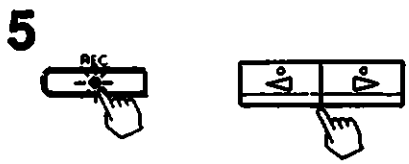
A

Recording (Deck B)









Recording Operation

Use only TYPE I (normal) or TYPE II (CrO_2) tapes for recording.

1 **Insert the tape.**

2 **Select program source with the function selectors and play it.**
The display shows the selected program source.

3 **Set DIRECTION MODE.**
To record one side, set to ═ .
To record both sides, set to ⟲.

4 **Set DOLBY NR.**
To use the Dolby NR system, set to ON.
Otherwise, set to OFF.

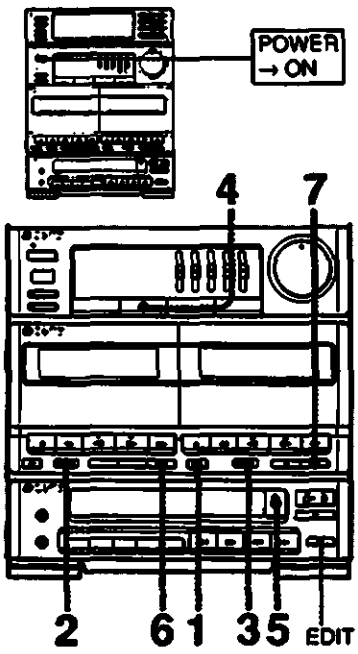
5 **While keeping REC pressed, press ▷ (for front side recording) or ◁ (for reverse side recording).**
Recording starts.

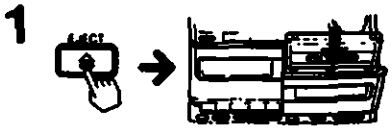
To stop recording
Press ■ .

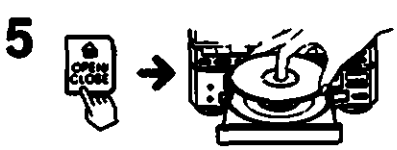
Notes
- Even if you set DIRECTION MODE to ⟲, recording stops at the end of the reverse side. To record both sides, be sure to start with the front side.
- Graphic equalizer controls are not effective for recording.
- The recording level is fixed and cannot be adjusted manually.

How to start recording precisely
1 Press PAUSE after step 4 in "Recording Operation" above.
2 While keeping REC pressed, press ▷ or ◁ .
3 Press PAUSE again at the desired point.

CD Recording (Deck B)







CD Recording Operation

1 **Insert a blank tape in deck B.**

2 **Set DIRECTION MODE.**
To record one side, set to ⇒ .
To record both sides, set to ⇄.

3 **Set DOLBY NR.**
To use the Dolby NR system, set to ON.
Otherwise, set to OFF.

4 **Press CD of the function selector.**

5 **Place the disc with the printed side up, and close the tray.**

6 **Press CD SYNCHRO.**
CD SYNC appears in the display.
The CD player and cassette deck are set in pause mode.

Note
The front side is automatically selected to be recorded in. To record in the reverse side, press ◁.

7 **Press PAUSE of the cassette deck.**
The CD play and recording start simultaneously.

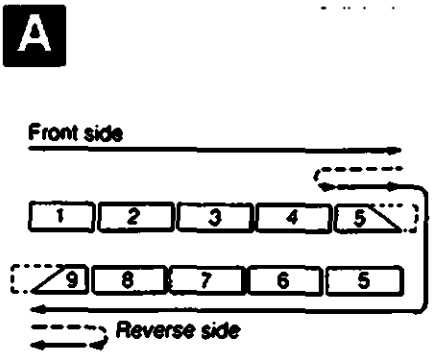
Note
When the tab on the cassette has been removed, the CD SYNCHRO button does not operate.

Is it possible to listen to program sources other than CD during CD recording?
No. If you press another function selector, the CD play stops and the program of the pressed button will be recorded.

Blanks between selections during CD recording
A 3-second blank is automatically inserted between selections.

Is it possible to adjust the sound quality for CD recording?
No. The graphic equalizer does not work.

CD Recording (Deck B)



If the tape ends in the middle of a selection A

The tape is rewound to the beginning of the selection. Then the selection is re-recorded so that it fades out naturally at the end of the tape.

If the recording is to be continued to the reverse side, the selection that faded out on the front side is recorded from its beginning on the reverse side.

To record only desired selections

Before pressing CD SYNCHRO, program the desired selections. (See page 16.)
To program for both sides continuously, insert a pause section between the selections for side A and those for side B.

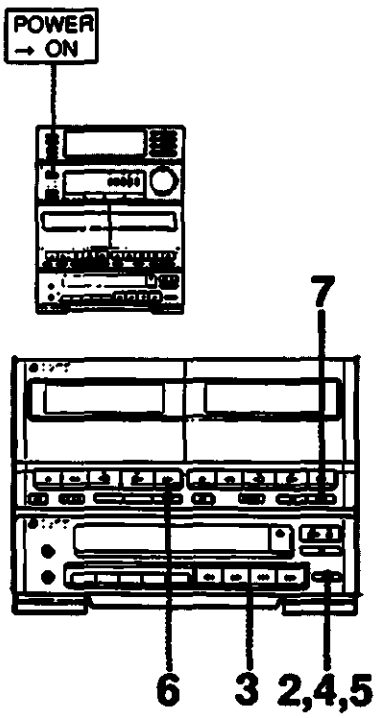
1 Program the selections for side A.
2 Press (! for CD operation on the remote commander.
The total play time will be reset to 0.
3 Program the selections for side B.
4 *Press CD SYNCHRO.*
5 Press PAUSE on the cassette deck.
Recording starts.

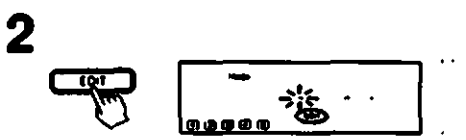
When the CD play of side A ends, the CD player enters pause mode. When the tape comes to the beginning of side B, the CD play of side B starts and the recording starts automatically.

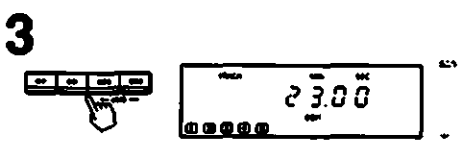
Important

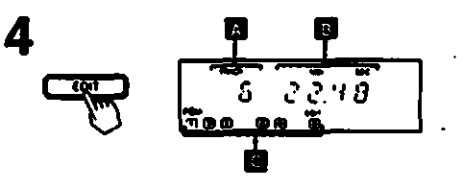
- Total playing time of the program of each *side must be within the length of each* side of the tape.
- Up to 20th selection in the disc can be programmed. 21st selection cannot be *programmed.*

CD Recording (Deck B)









Editing the CD for Recording

The CD player automatically edits the selections on a CD according to the tape length.

1 **Perform 1 to 5 of the CD recording operation, on page 21.**

2 **Press EDIT.**
Make sure that EDIT and - - - - appear in the display.

3 **Designate the tape length of one side using ▶▶, and ◀◀, or ▷▷I and I◁◁.**
As you press ▶▶ or ◀◀, the minute display changes as follows:

23 ↔ 27 ↔ 30 ↔ 37 ↔ 45 ↔ - -

As you press ▷▷I or I◁◁, the seconds increase or decrease by 10. After 50, the seconds show 00 and the minutes increase by 1.

4 **Press EDIT.**
The selections to be recorded are determined automatically. For details, see page 24.
Then the display shows A the last selection to be recorded, B total playing time, and C selections to be recorded.

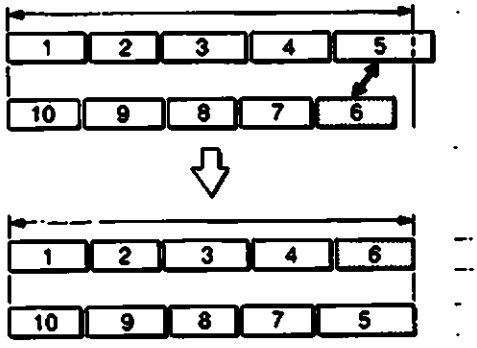
5 **For recording both sides, press EDIT again.**

6 **Press CD SYNCHRO.**

7 **Press PAUSE of the cassette deck.**
The recording starts.

Notes
- Up to 20th selection in the disc can be recorded. 21st selection cannot be recorded.
- Designate the total playing time shorter than the tape length in step 3.

A



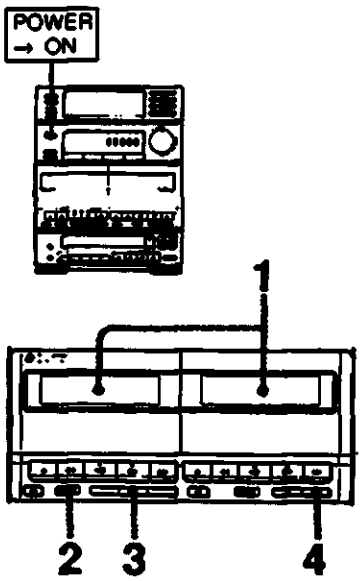
To record desired selections on the front side

Before pressing EDIT, program the desired selection. (See page 16.)

How the CD player determines the selections A

The CD player selects the selections from the first one in the CD, summing up each playing time. When the total playing time exceeds the specified tape length, the last selection is eliminated. Then, the CD player looks for a selection whose length is within the remaining tape and substitutes it for the eliminated one.

Tape Dubbing (from deck A to B)



Dubbing the Whole Tape

1 **Insert the recorded tape in deck A and the blank tape in deck B.**

2 **Set DIRECTION MODE.**
To dub on one side: ═
To dub on both sides of the tapes with the same length: ⊂⊃
To dub on both sides of the tapes with the different length: RELAY

3 **Press HIGH SPEED.**

4 **Press PAUSE.**
High speed dubbing starts.

To stop dubbing
Press ■ on either deck A or B.
The tapes in both decks stop.

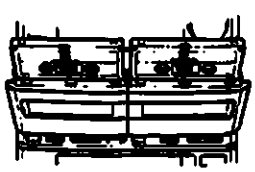
Note on DIRECTION MODE setting

Position	Operation
═	Dubbing stops at the end of the tape.
⊂⊃	When the tape in one deck comes to its end, it reverses immediately regardless of the tape position of the other deck.
RELAY	When the tape in one deck reaches its end, it stops until the other tape also comes to its end, and then both tapes reverse together.

When dubbing starts from the reverse side in the RELAY mode
At the end of the reverse side, dubbing stops automatically.

Note
During high speed dubbing, only ■ is operative.

1

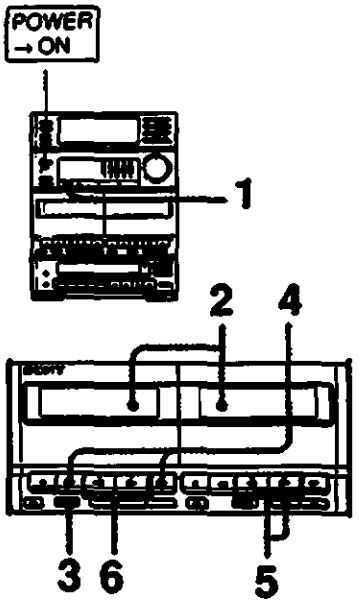


2

3

4

Tape Dubbing (from deck A to B)



Editing the Tape

1 **Press TAPE of the function selector.**

2 **Insert the recorded tape in deck A and the blank tape in deck B.**

3 **Set DIRECTION MODE to ⇒ or ⇄.**

4 **Locate the beginning of the portion to be dubbed on deck A, using ◀◀ or ▶▶ and then stop the tape.**

5 **While keeping REC pressed, press ◁ or ▷ of deck B.**

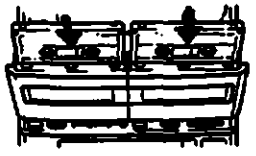
6 **Press ◁ or ▷ of deck A.**
Normal speed dubbing starts.

To stop dubbing
Press ■ on both decks.

Is it necessary to set DOLBY NR?
No. The tape in deck B is automatically recorded in the same state as the tape in deck A.

Is it possible to listen to program sources other than tape during dubbing?
During high speed dubbing, yes. Any program source can be selected with the function selectors.
During normal speed dubbing, no. The source changes to that of the function selector pressed and the tape playback cannot be dubbed.

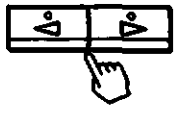
1

2


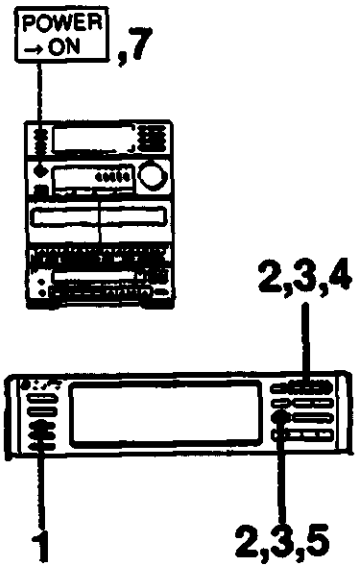
3

4

5

6


Timer-activated Operation



The power can be turned on and off automatically so that you can record a radio program while you are out, or wake up to music, etc.

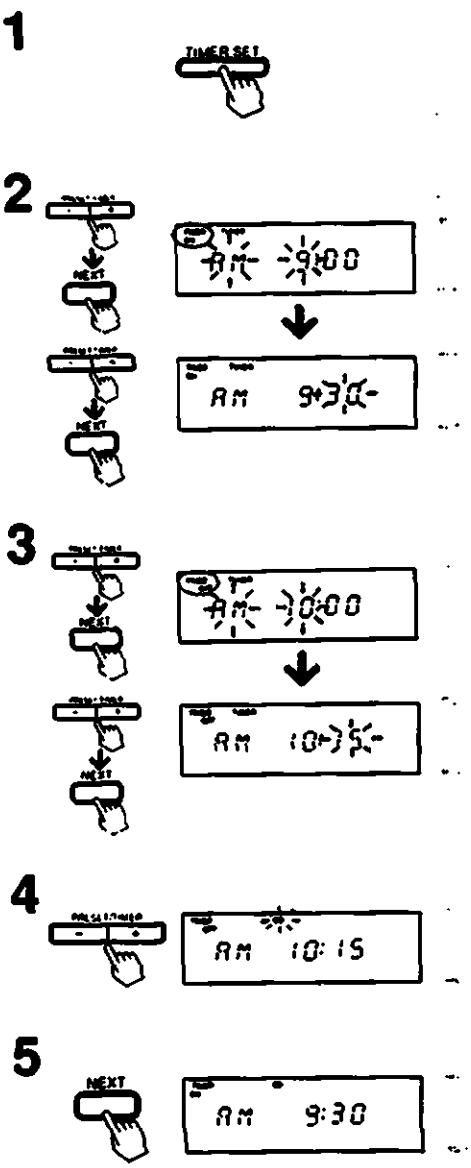
The preset timer-on and -off time remain until you reset them or the power cord is disconnected.

Before setting the timer

- Make sure the clock is set correctly. (See page 8.)
- If you want to record a radio program, be sure to insert a cassette tape long enough.

Timer Setting

The illustrations show an example that the system turns on at 9:30 AM and off at 10:15 AM.



1 **Press TIMER SET.**
TIMER ON appears and a figure indicating hour blinks.

2 **Set the hour and minute of the timer-on time with PRESET/TIMER + or –, and NEXT.**
TIMER OFF appears and a figure indicating hour blinks.

3 **Set the hour and minute of the timer-off time with PRESET/TIMER + or –, and NEXT.**
The program source blinks.

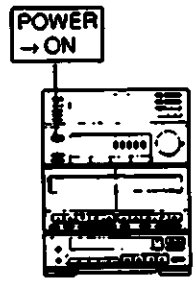
4 **Select the program source with PRESET/TIMER + or –.**
As you press + or –, the source changes:
TUNER ↔ TUNER REC ↔ TAPE ↔ CD

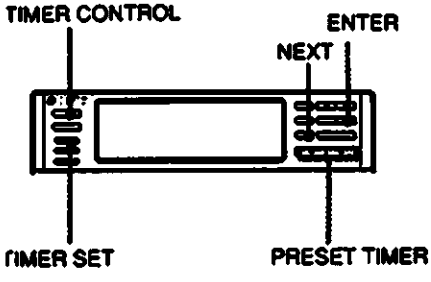
5 **Press NEXT.**

6 **Prepare for the source, selecting a stored station, inserting the disc or tape.**

7 **Press POWER to turn off the system.**
Make sure that TIMER ON is on.
At the timer-on time, the system turns on automatically.

Timer-activated Operation





To change the time and program

1 Press TIMER SET.
The timer-on hour blinks.
2 Press NEXT until the item to be changed blinks.
3 Press PRESET/TIMER + or – until the desired time or source appears.
4 Press NEXT until TIMER ON time appears.
The display, then, shows TIMER OFF time, and returns to the previous display.

When you do not want to operate the timer program

Press TIMER CONTROL to turn off TIMER.
To reactivate the timer, press TIMER CONTROL to display TIMER.

When the power is already on at the preset time

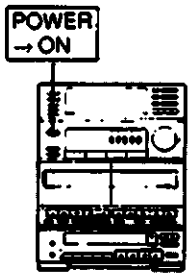
The function mode will be automatically changed to the preset one, even if you are playing a program of another function. However, when you have preset the TUNER REC mode, recording will not start even though the station is tuned in. Be sure to turn the power off before the preset time for tuner recording.

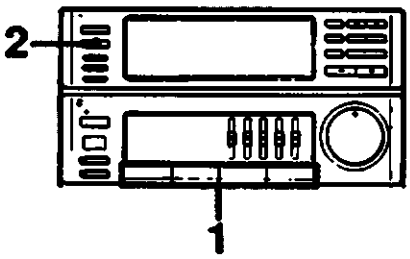
Important

On the recording side of a tape during timer recording

Playback or recording always starts from the front side (the side facing you).
To record on the other side, be sure to turn over the tape, otherwise, recording on the front side will be erased.

Sleep Timer Operation





1

2

By setting the sleep timer, the system power can be turned off after the preset duration.

Sleep Timer Setting

1 **Play the desired program source.**

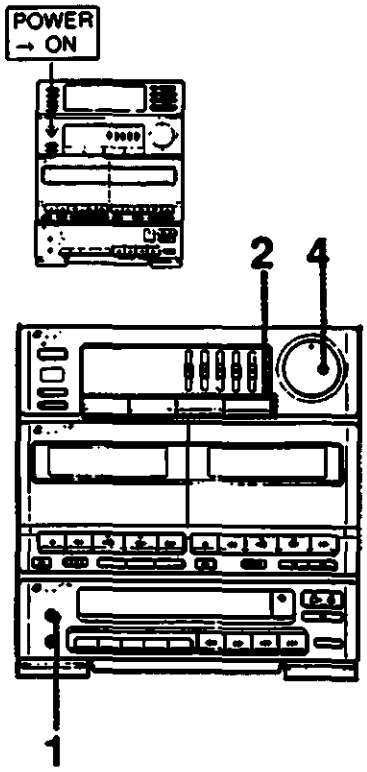
2 **Press SLEEP to select the desired duration in minute.**
As you press SLEEP, the indication changes as follows:
90 → 80 → ... 10 → ··

To turn off the system before the time of the sleep timer comes
Press POWER.

To check the remaining time of the sleep timer
Press SLEEP once, and the remaining time appears.
The display returns to the previous indication in several seconds.

Microphone Mixing

A



Mixing Operation A

1 **Connect the microphone to MIX MIC jack.**

2 **Select program source with the function buttons and play it.**

3 **Sing or speak into the microphone.**

4 **Adjust the total volume.**

When the mixing is over
Be sure to disconnect the microphone.

Recording the Sound Mixed with a Source

1 Mix the sound as described above.

2 Insert a tape in deck B.

3 Set deck B to the record mode.

Recording from a Microphone Only

1 Press CD.

2 Press ■ of the CD player.

3 Insert a tape in deck B.

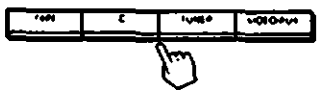
4 While keeping REC pressed, press ▷ or ◁ on deck B.
Recording starts.

5 Speak or sing into the microphone.

To stop howling (acoustic feedback)
Placing the microphone too close to the speakers may cause howling. Move the microphone away from the speakers or change the direction it faces.

1

2



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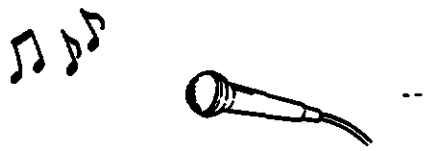
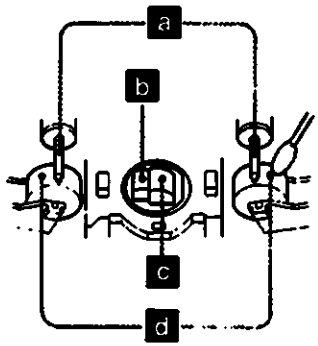


4

Maintenance

A



Cleaning the Heads and the Tape Paths A

Clean after every 10 hours of operation and before recording for optimum record/playback quality.

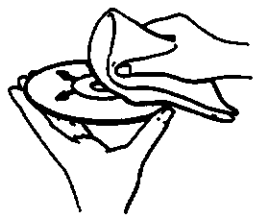
1 Press EJECT to open the cassette holders.

2 Slightly moisten the tip of a cotton swab with cleaning fluid or alcohol.

3 Wipe the parts shown in the illustration:
- a Capstan
- b Erase head
- c Record/playback head
- d Pinch roller

Do not insert a cassette until cleaned areas are completely dry.

B



Demagnetizing the Heads

After 20 to 30 hours of use, it is necessary to remove residual magnetism built up on the head using any commercially available demagnetizer.
For demagnetizing procedure, refer to the instruction manual of the demagnetizer.

Cleaning Discs B

When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the center out.
Do not use solvents such as benzine, thinner, commercially available cleaners, or anti-static spray intended for analog discs.

Cleaning the Cabinet

Use a soft cloth slightly moistened with mild detergent solution.

Specifications

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 6 ohm loads, both channels driven, from 60 Hz – 20 kHz; rated 16 watts per channel minimum RMS power, with no more than 1% total harmonic distortion from 250 miliwatts to rated output.

Tuner Section

System	FM stereo, FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 – 108 MHz
Antenna	FM lead antenna
Antenna terminals	75 ohms unbalanced
Intermediate frequency	10.7 MHz
AM tuner section	
Tuning range	530 – 1,710 kHz
Antenna	AM loop antenna, External antenna terminals
Intermediate frequency	450 kHz

Amplifier Section

Continuous RMS power output	20 + 20 watts (6 ohms at 1 kHz, 5% THD)
Inputs	MIX MIC (minijack): sensitivity 1 mV, impedance 600 ohms VIDEO/AUX (phono jacks): sensitivity 5 mV, impedance 47 kilohms
Outputs	HEADPHONES (stereo minijack): accepts headphones of 8 ohms or more. SPEAKER: accepts speakers of 6 to 16 ohms.

Compact Disc Player Section

System	Compact disc digital audio system
Laser	Semiconductor laser (λ = 780 nm) Emission duration: continuous
Laser output	Max. 44.6 µW* * This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

Cassette Deck Section

Recording system	4-track 2-channel stereo
Frequency response (DOLBY NR OFF)	40 – 13,000 Hz (±3 dB), using TYPE I cassette (Sony HF-S) 40 – 14,000 Hz (±3 dB), using TYPE II cassette
Wow and flutter	0.1% WRMS ±0.3% (DIN)

Speaker Section

Speaker system	3 way
Speaker units	Woofer: 14 cm (5⅝ inches) dia., cone type Tweeter: 5 cm (2 inches) dia., cone type Super tweeter: 2 cm (¹³/₁₆ inches) dia., dome type
Enclosure type	Bass reflex
Frequency range	60 Hz – 20 kHz
Sensitivity	88 dB/W/m
Impedance	6 ohms
Dimensions	Approx. 185 × 285 × 225 mm (w·h·d) (7⅜ × 11¼ × 8⅞ inches)
Weight	Approx. 3.2 kg (7 lb 1 oz) net per speaker

General

Power requirements	120 V AC, 60 Hz
Power consumption	60 watts
Dimensions	Approx. 615 × 285 × 260 mm (w·h·d) (24¼ × 11¼ × 10¼ inches) incl. projecting parts and controls
Weight	Approx. 12.6 kg (27 lb 12 oz)
Supplied accessories	Remote commander (1) Sony SUM-3 (NS) batteries (2) AC power cord (1) AM loop antenna (1) FM lead antenna (1)

Design and specifications subject to change without notice.

Troubleshooting Guide

The following checks will assist in the correction of most problems which you may encounter with your system.
Before going through the check list below, first check the following points.
- The power cord must be connected firmly.
- The speaker connection must also be firm.

Should any problem persist after you have made these checks, consult your nearest Sony dealer.

Radio Reception

Symptom	Cause (and Remedy)
TUNED indicator flickers.	Adjust the antenna.
The STEREO indicator flickers.	Adjust the antenna.
Severe hum or noise.	Adjust the antenna.
	The signal strength is too weak. Connect the external antenna. (See page 6.)
	Connect the ground wire.

Cassette Deck Operation

Symptom	Cause (and Remedy)
Recording cannot be made.	No cassette in the cassette holder.
	The tab is removed from the cassette. (See page 18.)
	The tape is wound completely.
Tape does not move even when you press the ▷ or ◁ button.	The cassette deck is in the pause mode.
Recording or playback cannot be made or sound level is low.	Dirty head (See page 31) Magnetic build-up on the record/playback head. (See page 31.)
Excessive wow or flutter, or sound drop-out.	Contamination of the capstans or pinch rollers. (See page 31.)
Insufficient erasure.	Magnetic build-up on the erase head. (See page 31.)
Increase of noise or erase of high frequencies.	Magnetic build-up on the record/playback head. (See page 31.)

(to be continued)

Troubleshooting Guide

(Continued)

CD Player Operation

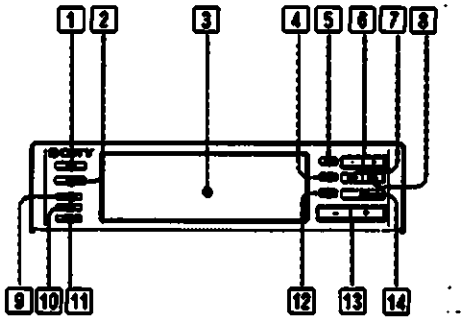
Symptom	Cause (and Remedy)
The CD player does not operate.	A function other than CD is selected. Press CD.
The disc tray does not close.	The disc is not placed correctly.
Play does not start.	Dirty disc. (See page 31.)
	The disc is inserted upside down.
	The player is in the pause mode.
	Moisture condensation. (See page 4.)
"NO DISC" appears	There is no disc in the player.
Play does not start from the first selection.	The player is in the PGM (program) or SHUFFLE mode. Press CONTINUE.
" ' ' " appears.	▶▶ was continuously pressed at the end of the disc. Press ◀◀ or ⊲⊲ to return to normal indication.

General

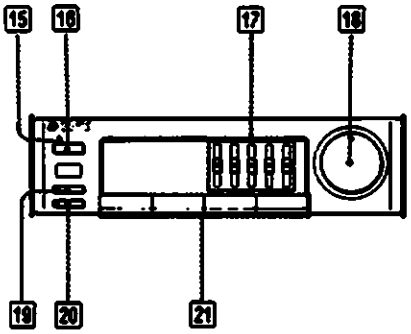
Symptom	Cause (and Remedy)
No sound.	Turn VOLUME clockwise. The headphones are connected. Disconnect it.
No sound from one channel or unbalanced left and right volume	Check the speaker connections of the inoperative channel
Reversed left and right sound.	Check the speaker cord connection and speaker location.
Lack of bass sound or apparently imprecise physical location of musical instruments.	Check the speaker connection for proper phasing.
Severe hum or noise.	The TV or VTR is too close to the stereo system. Separate the stereo system from the TV or VTR.
Buttons do not operate.	This may caused by power noise. Press the system reset button at the rear.

Parts Identification

A



B



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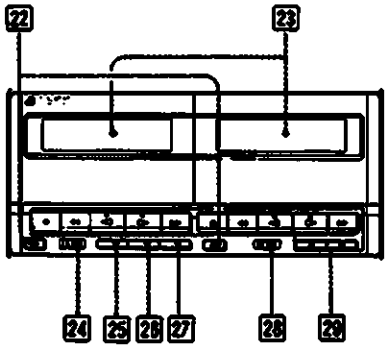
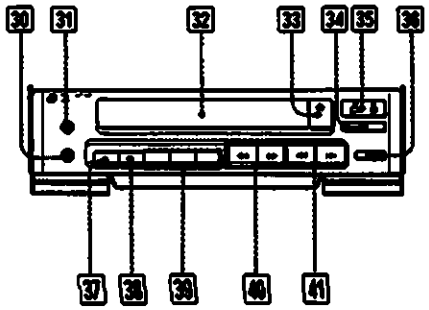


D



Refer to the pages indicated in ● for use of the buttons.

Tuner Section A

1. TIMER CONTROL button ●
2. SLEEP timer button ●
3. Display window
4. AUTO tuning button ●
5. BAND selector ●
6. TUNING –/+ buttons ●
7. MEMORY button ●
8. ENTER button ●
9. TIMER SET button ●
10. CLOCK DISPLAY button ●
11. CLOCK SET button ●
12. NEXT button ● ●
13. PRESET/TIMER +/– (preset station scan/time set) buttons ● ● ●
14. SHIFT (memory page select) button ●

Amplifier Section B

15. STANDBY indicator
    It is lit as long as the AC power cord is connected to a wall outlet.
16. POWER switch
17. 5-band stereo graphic equalizer ●
18. VOLUME control ●
19. DBFB (Dynamic Bass Feedback) button ●
20. S-SUR (simulated surround) effect button ●
21. Function selectors ● ● ● ● ●

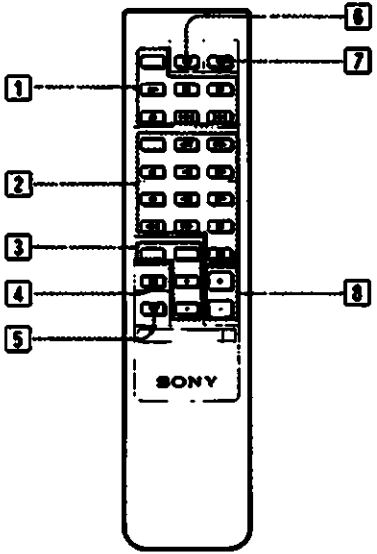
Cassette Deck Section C

22. EJECT button ●
23. Cassette holders
24. DIRECTION MODE selector ● ● ● ●
25. AMS/BLK SKIP (Automatic Music Sensor/blank skip) button ●
26. TAPE DUBBING HIGH SPEED button ●
27. CD SYNCHRO (CD synchronized recording) button ●
28. DOLBY NR (Dolby Noise Reduction) switch ● ● ●
29. Tape operation buttons
    ◀◀/▶▶: Fast winding ● ●
    ▷: Forward play ● ●
    ◁: Reverse play ● ●
    ■: Stop ● ●
    REC (recording) ●
    PAUSE ● ●

CD Player Section D

30. HEADPHONES jack (stereo minijack) ●
31. MIX MIC (mixing microphone) jack (minijack) ●
32. Disc compartment
33. ⏏ OPEN/CLOSE button ●
34. ■ (stop) button ●
35. ▷II (play/pause) button and indicator ●
36. EDIT button ●
37. TIME display selector ●
38. REPEAT button ●
39. PLAY MODE selectors
    CONTINUE play button ● ●
    SHUFFLE play button ●
    PROGRAM play button ●
40. ◀◀/▶▶ (manual search) buttons ●
41. I◁◁/▷▷I (Automatic Music Sensor) buttons ●

Parts Identification



Remote Commander

1. CD player operation buttons
2. Cassette deck operation buttons
3. Tuner operation buttons
4. PHONO select button
5. VIDEO/AUX select button
6. SLEEP timer button
7. POWER switch
8. VOL (volume) +/– control buttons